

## PROGRAMMABLE 3D GRAPHICS PIPELINE FOR MULTIMEDIA APPLICATIONS

### Abstract of the Disclosure

- 5 A programmable graphics pipeline and method for processing multiple  
partitioned multimedia data, such as graphics data, image data, video data, or audio  
data. A preferred embodiment of the programmable graphics pipeline includes an  
instruction cache, a register file, and a vector functional unit that perform partitioned  
instructions. In addition, an enhanced rasterization unit is used to generate  
10 inverse-mapped source coordinates in addition to destination output coordinates for  
graphics and other media processing. An enhanced texture address unit generates  
corresponding memory addresses of source texture data for graphics processing and  
source media data for media processing. Data retrieved from memory are stored in an  
enhanced texture cache for use by the vector functional unit. A vector output unit  
includes a blending unit for graphics data and an output buffer for wide media data.